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Pritchett, Ruth; Jolly, Kate; Turner, Katrina M; Sharp, Debbie J; Bradbury-Jones, Caroline; Daley, Amanda; PAM-PeRS study team

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## **Women's views of exercise as a treatment for postnatal depression: a qualitative study**

Dr Ruth Victoria Pritchett<sup>1</sup>, Professor Kate Jolly<sup>2</sup>, Dr Katrina Turner<sup>3</sup>, Professor Debbie Sharp<sup>3</sup>, Dr Caroline Bradbury-Jones<sup>4</sup>, Dr Amanda J Daley<sup>2</sup>, on behalf of the PAM-PeRS study team

<sup>1</sup>Institute of Applied Health Research, The Murray Learning Centre, The University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK

Phone 0121 414 6891

Email: [r.v.pritchett@bham.ac.uk](mailto:r.v.pritchett@bham.ac.uk)

<sup>2</sup>Institute of Applied Health Research, The University of Birmingham, Birmingham, UK

<sup>3</sup>Academic Unit of Primary Health Care, University of Bristol, Bristol, UK

<sup>4</sup>School of Nursing, The University of Birmingham, Birmingham, UK

The PAM-PeRS Study team:

Dr Amanda J Daley; Dr Ruth Victoria Pritchett; Professor Kate Jolly; Dr Andrea K Roalfe; Dr Katrina Turner; Ms Sarah Coleman; Dr Mary McGuinness; Professor Ian Jones; Professor Debbie Sharp; Professor Christine MacArthur

## **ABSTRACT**

### **Background**

Globally, postnatal depression (PND) affects 13 million women a year. Treatment options include antidepressants and psychological therapies but women are often reluctant to take medication in the postnatal period and access to therapies is limited. Exercise offers a freely available treatment for PND; however, depressed mothers' views and experiences of exercise have not been investigated.

### **Aim**

To explore depressed mother's views and experiences of exercise as a treatment for PND

### **Design and Setting**

A qualitative study nested within a randomised controlled trial of an exercise intervention for mothers with PND in the UK.

### **Method**

Twenty one semi-structured interviews with women (describe the women). During 2010-2011. Interviews were audio recorded, transcribed verbatim and analysed thematically.

### **Results**

Mothers reported physical, practical and psychological barriers to exercise but also the ways in which these could be overcome. Many physical and psychological benefits of exercise were reported. Mothers described deterioration in their sense of identity during

motherhood and depression, and the positive effect exercise had on their sense of self.

Views of exercise as a treatment for PND ranged from doubts as to its practicality, to positive comparisons with other treatments, to improved recovery from depression.

## **Conclusion**

Acknowledging the wide range of benefits mothers reported from exercise may assist health professionals discussing exercise with depressed mothers. Mothers may need encouragement not to attach guilt to exercising. It may be helpful to emphasise that a mother's mental wellbeing is very important in itself, and in relation to caring for a child.

## **Keywords**

General practice, exercise, physical activity, postnatal depression, postpartum depression, qualitative research methods

## **HOW THIS FITS IN**

Acceptable treatment options for mothers with postnatal depression are limited, with widely acknowledged reluctance to taking antidepressants (especially while breastfeeding) and limited availability of psychological therapies. Exercise may provide a freely available additional treatment option. This research presents the first exploration of mothers' views and experiences of exercise as a treatment for postnatal depression. These findings provide useful information for health professionals discussing exercise with depressed mothers.

## **INTRODUCTION**

Postnatal depression (PND) is a global mental health issue, affecting 7-13% of postnatal women (1, 2). PND has a profound effect on mothers and families (3) and negatively affects the social and cognitive development of children (4, 5).

PND is commonly treated in primary care with antidepressants and psychological therapy (6, 7). However, there is a known reluctance amongst postnatal women to taking antidepressants, especially among those breastfeeding (8) and long waiting lists for counselling (9).

Group exercise is currently recommended by the UK National Institute for Health and Care Excellence (NICE) for the treatment of mild to moderate depression in the general population (7) and health professionals treating mothers with PND are referred to this guidance (10). Qualitative research has highlighted that depressed patients generally find exercise to be an acceptable treatment, but has also highlighted the many barriers to exercise, including lethargy, fatigue and lack of confidence (11). These factors, along with many other physical, practical and psychological barriers unique to the postnatal period may affect the acceptability of exercise as a treatment for PND. Greater knowledge of the acceptability of exercise to women with PND may be useful to primary care health professionals when recommending treatment options.

## **METHOD**

### **Study design and setting**

This research was a nested qualitative study within a randomised controlled trial (RCT) of an

exercise intervention for mothers with PND in the West Midlands, UK, between April 2010 and April 2013 (12, 13). Participants in the RCT intervention and comparator groups both had access to usual care, including counselling and/or antidepressants if prescribed. The exercise counselling intervention was delivered by a physical activity facilitator (PAF) who provided individualised exercise advice and support. The intervention group received two home visits and two phone calls over a six month period and information leaflets on local exercise opportunities and ways to introduce exercise into daily life.

All RCT participants had an ICD-10 diagnosis of major depression or mixed anxiety and depression (14). Participants were randomised up to six months postnatal, aged 18 years or more and were not achieving UK government recommendations for activity (150 minutes moderate exercise a week) (15). Women were ineligible if pregnant, experiencing psychotic symptoms, dependent on illicit drugs/alcohol or their baby had died or was not living with them.

Participants from both RCT intervention and comparator groups were invited to take part in an interview after completing six month follow up. Participants were purposefully sampled (16), to achieve maximum variation in relation to Edinburgh postnatal depression score (EPDS) (an indication of depression severity) at baseline and prior to interview; age; ethnicity; parity; employment status and level of socio-economic deprivation.

### **Data collection**

Interviews were semi-structured in nature (17) and an interview schedule was used to ensure core points were covered (Appendix 1). The schedule was designed to elicit the data required to explore mothers' views of exercise as a treatment for PND. Topics included: mothers' current and previous levels of exercise; their expectations of an exercise trial and

their experience of it; mothers' motivations and the barriers to exercise; the benefits and disadvantages of exercise and mothers' views of exercise as a treatment for PND.

Participants provided written informed consent before interviews were conducted. All interviews took place in participants' homes and lasted between 35 - 45 minutes. Interviews were audio recorded, transcribed verbatim and anonymised. Data collection and analysis took place concurrently. Data collection ended when data saturation had been reached, i.e. no new themes emerged from the data.

### **Data analysis**

A thematic framework analysis was conducted (18). To enable familiarisation, three transcripts were read repeatedly, then coded independently by two researchers (say who) to improve objectivity. Discrepancies in coding and coding frameworks were resolved through discussion, leading to the generation of one coherent coding framework that was applied to further interviews. All transcripts were then uploaded into NVivo version 10 (QSR International Pty Ltd) and electronically coded using this framework. Codes relating to a particular subject were grouped together under subthemes, and subthemes relating to the same concept were grouped into themes. The data from the codes within each theme and subtheme were summarised in a framework table. The framework approach enabled comparisons to be made within and across the data (18).

### **RESULTS**

Fifty seven of the 94 RCT participants were invited to take part in this qualitative study; 32 were unresponsive or declined; 21 interviews were conducted between 25<sup>th</sup> November 2010 and 30<sup>th</sup> November 2011 (Table 1).

**Table 1: Participant characteristics**

Participant characteristic		N (%) (n=21)
RCT group	Intervention group	13 (61.9)
	Comparator group	8 (38.1)
Age	18-29	6 (28.6)
	30-39	13 (61.9)
	40+	2 (9.5)
Ethnicity	White	12 (57.1)
	Black-African	1 (4.8)
	Pakistani	4 (19.0)
	Indian	3 (14.3)
	Mixed	1 (4.8)
Parity	1 child	5 (23.8)
	2 children	9 (42.9)
	3 children	4 (19.0)
	4 children	1 (4.8)
	5 children	2 (9.5)
Employment status	Home	8 (38.1)
	Paid Employment	10 (47.6)
	Unemployed	1 (4.8)
	Self employed	1 (4.8)
	Home and Student	1 (4.8)
Activity at baseline	No moderate activity	18 (85.7)
	< 150 minutes moderate activity/ week	3 (14.3)
	≥ 150 minutes moderate activity/ week	0 (0.0)
CIS-R diagnosis	Mild depressive episode	4 (19.0)
	Moderate depressive episode	13 (61.9)
	Severe depressive episode	2 (9.5)
	Mixed anxiety and depression	2 (9.5)
EPDS at baseline	Range	13-25
	Mean (SD)	16.8 (3.4)
EPDS at 6 months (prior to interview)	Range	4-21
	Mean (SD)	12.4 (6.7)
Self-harm/suicidal ideation at any point during RCT		9 (42.9)
Receiving antidepressants at 6 months		4 (19.0)
Receiving counselling at 6 months		3 (14.3)
Previous depression/anxiety	No previous depression or anxiety	7 (33.3)
	Previous depression	4 (19.0)
	Previous PND	9 (42.9)
	Previous anxiety	3 (14.3)



## Summary of themes or Results?

Three main themes were identified: barriers and facilitators of exercise in the postnatal period; motherhood, identity and the benefits of exercise; mothers' views of exercise as a treatment for PND.

### Exercise in the postnatal period

Mothers described a range of physical, practical and psychological barriers to postnatal exercise, but also how they overcame these barriers and integrated exercise into their daily lives. Initial physical limitations included recovery from childbirth, profound fatigue and the demands of breastfeeding.

*'I think sometimes you put it down to lack of sleep because if you are tired and as tired as you can be with a...baby, that makes a lot of things insurmountable.'* (34yrs)

Depression and anxiety caused self-isolation, some mothers described a fear of pushing themselves beyond what they could cope with psychologically.

*'I did hit quite a bad low, I wasn't able to even contemplate doing any classes or anything like that because I had quite bad anxiety, so even the thought of going into new places with new people I couldn't face any of that.'* (39yrs)

However, some mothers recalled adapting their exercise to their mood.

*'I had some days when as I say, just getting up and getting my children to school and looking after [baby] was enough, and you know I really couldn't do any more and on those days I didn't push myself to do anymore. You know erm and then on days when I was feeling a little bit brighter I could achieve more and I was able to, 'right I am going for a walk today' (39yrs)*

A lack of motivation and an overwhelming sense of inertia were reported by many mothers. Some felt the need to provide 'legitimate reasons' for inactivity, but there was often recognition of a lack of motivation.

*'I was always making a lot of excuses for myself, I don't know why, I think it's just a general mindset when you're not feeling quite well. You just make excuses, like I said, it's too cold... not feeling quite well, he's not feeling quite well...It's always an excuse for lack of motivation' (23yrs)*

Some mothers avoided committing to an exercise plan to avoid experiencing guilt if they failed. However, some mothers expressed a view that beginning exercise gradually and not creating unrealistic expectations fostered initial efforts.

*'you know what you can do and then start to push yourself more and more from that point...if you set the bar too high then you're going to, you're going to be sort of disillusioned from the start' (36yrs)*

Mothers who had previously been very active sometimes described a reluctance to compare their current abilities with previous achievements. This self-critical attitude was also seen in some mothers' attitudes to their appearance, with self-consciousness and a fear of societal judgement sometimes described as preventing public exercise. A lack of encouragement and support from families was also felt by some to undermine exercise attempts.

*'knowing what I used to be able to do to then only be able to manage ten minutes or something like that would be just too much for me to bear.' (34yrs)*

Practical barriers included 'time pressure'. Vital tasks such as preparing food and washing clothes took preference over exercise and women were not always motivated to dedicate rare free time to exercise.

*'eating and having clean clothes is a higher priority than going for a walk.'* (34yrs)

Financial pressures, returning to work and partners working patterns of could all bring limitations to exercise. A lack of informal childcare was described as a significant barrier to exercise, however, some mothers found running locally in the evenings achievable. Many gyms did not provide crèches, and those that did would often not take children under a year old. Mothers with only one child more often described exercising in the gym as a viable break from childcare responsibilities. The need to care for a child in the water also severely limited the aerobic potential of swimming. However, schemes such as swimming groups run by midwives and free access to council facilities removed many of these barriers.

*'I love swimming and that, but I can't go proper swimming, I mean I can take her to paddle, but I can't say stay there a minute I'm going to do 30 lengths'* (29yrs)

Walking was very popular, circumventing the financial requirements and childcare barriers of more formally organised exercise. However, the rewards of walking were not always felt to outweigh the significant effort required to organise it. The presence of a child could restrict the aerobic and social side of walking and some mothers felt awkward feeding a baby in the company of friends without children.

*'sometimes a friend did accompany me, but it was difficult with the baby because obviously I had to stop and feed and all the rest of it'* (44yrs)

To avoid childcare issues and poor weather some mothers exercised at home. However, some described treadmill running or exercising to a DVD monotonous, and for some, the presence of their children created a very challenging environment for exercise. However, some described home exercise, often while their baby slept, as very practical.

*'Yeah, yeah on the running machine I do, yeah... we bought it because I thought if it's there then that excuse sort of falls away...I usually now do it when he's gone to bed, there's no excuse whatsoever because he is in bed. (23yrs)*

Some women expressed a view that housework and childcare could provide a constant level of activity.

*'I would be putting my washing out and I would be marching on the spot, picking up, doing really weird things like that just because I knew, I knew it wasn't going to get my heart racing erm it was just to add to the activity that I was doing' (33yrs)*

### **Motherhood, identity and the benefits of exercise**

Mothers who exercised described a range of physical and psychological benefits. Many described experiencing a change or loss of their personal identity after having a baby, and it was suggested that exercise could be a positive influence on one's sense of self.

*'for a while...you do lose yourself a little bit because...once they're here it's like you're just mum.'* (23yrs)

Some women described gaining confidence from achieving specific exercise goals at a time when they felt a loss of control and former confidence. Self-confidence was also gained from the effect of exercise on their body image. Exercise was reported to improve feelings of energy and motivation for daily tasks, consequently improving mood.

*'it becomes a vicious circle because you feel tired so you don't want to exercise, so then you feel more tired. Um, it can be quite a downward spiral, and I think it's when you do start to exercise you realise it actually gives you more energy and makes you feel more positive.'* (37yrs)

Physical activity outside the home was reported to reduce feelings of isolation and provide a sense of connection with the world. Social interaction, either through group exercise or walking with friends facilitated peer support and empathy. Less intensive forms of exercise such as walking in a pleasant environment were described as fostering mental calmness and providing a distraction from unwanted rumination, better enabling some mothers to deal with the stresses of childcare.

*'things like go to the park or something on the way home which we are lucky enough to have and I feel a bit more sort of calmer and able to deal with having both of them for a few hours.'* (34yrs)

Some mothers described the constant presence of their child as detrimental to their psychological health. A commonly expressed view was that of exercise as a source of temporary freedom from the mother role.

*'I run out the front door and I could almost do that [hands in the air] because it's like 'yes, I'm away'. There's no-one tugging on my trousers, 'mummy can I have a drink.' It is that real sense of freedom and I think that's so important when you've got little kids because you just don't have that.'* (37yrs)

However, a few mothers expressed a view that the freedom and enjoyment of outdoor exercise provided an unhelpful contrast to the home environment, resulting in low further mood.

The concept of the 'motherhood ideal' pervaded the narratives. Mothers reported feeling pressure from society and themselves to always put the needs of the child first. Some mothers struggled not to see focusing on exercise as selfish. For many the physical and psychological benefits gained through exercise provided justification for it. Furthermore, some mothers described exercise as helping them fulfil the mother role by providing valuable experiences of family exercise and keeping them healthier for their children's future. Others discussed how the pressure to be a 'good mother' motivated them to try exercise, in the hope that it would improve their symptoms.

*'I needed to get up and do something, the longer I kept myself in the house and kept the kids in the house and didn't go out and doing anything the worse I was making it for all of us... it [exercise] was something that was achievable, it wasn't out of my reach, it was, it was feasible.'*

*'so you didn't want to just have to wait until you got better, you wanted to do something.'* (interviewer)

*'No, no, yeah I couldn't afford to, you know two kids that need a mum in decent working order' (36yrs)*

### **Mothers' views of exercise as a treatment for PND**

Women expressed a range of views regarding exercise as a treatment for PND. The fact that exercise did not require disclosure of PND to friends and family was described as an

advantage; exercise itself was not felt to be a 'stigmatising' treatment. For some, exercise was discussed as a preferable first step to stave off the need for antidepressants. Exercise was described as a preferable 'natural' solution compared to 'artificial' antidepressants, which were felt by some to be more damaging than behavioural interventions, and only appropriate for severe depression.

*'I felt that the antidepressants were making the situation worse, in the sense that they made me very tired and lethargic and, um, quite disconnected. That was just exacerbating how I was already feeling so ... and I was aware that exercise releases endorphins, which helps with your mental state so it seemed to be, for me, a better alternative to medication' (37yrs)*

Previous negative experiences with antidepressants were also described as leading mothers towards self-help interventions. However, some mothers suggested that postnatal exercise was impractical.

*'the theory of it is brilliant...But it is just putting it into practice for each individual might not be that easy really.'* (39yrs)

Others suggested that if exercise was achieved, the benefits would only be temporary. Some mothers suggested that there was a place for exercise as part of a combination of treatments for PND. For some women, exercise was described as an effective treatment, improving their recovery time and preventing the day to day deterioration of their symptoms.

*'that's what kept me sane really, putting the children into the pushchair and just going, walking and walking' (37yrs)*

## DISCUSSION

Despite the many physical and practical barriers to exercise for depressed mothers, many were able to incorporate some activity into their daily lives by being adaptable to their mood and relying on informal childcare. Many benefits were reported from exercise, such as improved body image, energy levels, motivation, a sense of freedom, calmness, distraction from unwanted thoughts, connection to the outside world and empathy from others.

Mothers described a sense of lost control and personal identity after giving birth; exercise provided a sense of regained confidence through achieving personal goals. The propensity of exercise to help mothers provide their child with positive exercise experiences and potentially improve their depression was much valued. Many held a positive view of exercise as a non-stigmatising, natural treatment without the negative side effects that antidepressants could bring such a sense of disconnection from their child. Women described how exercise had improved their recovery time and alleviated their depression.

Many of the psychological barriers to exercise found amongst general populations were also found amongst the mothers in our study, such as lethargy, fatigue, lack of confidence (11), low motivation (19) and comorbid anxiety (20). Negative coping strategies such as self-blame and behavioural disengagement (21, 22) were also found and have been previously associated with PND (23). The additional barrier of guilt attached to time focusing on oneself was found to be a significant barrier to exercise. Mothers did, however describe how these barriers were overcome, beginning by not creating unrealistic expectations (24). The ability of exercise to reduce depressive symptoms, as reported in recent RCTs (13, 25) was found to be true for some interviewees. Several other benefits were reported; principally, a feeling of increased energy after exercise, which has been previously reported



(26) and improved body image, which has been found to be a motivating factor amongst depressed populations (27). The ability of exercise to reduce negative introspection, postulated by Bahrke and Morgan (28), was found amongst mothers in this research, as was the ability of exercise to reduce isolation, and provide valued social interaction. Exercise has been found to be an acceptable form of treatment for depression in the general population (11). Mothers described a range of views regarding the appropriateness and effectiveness of exercise as a treatment for PND, from questioning its practicality, to extolling its benefits and positive effect on their mood. Many valued exercise as a 'natural' treatment.

The psychological impact of motherhood, including a sense of lost personal identity, has been well documented (29, 30). An altered sense of self has also been found amongst people with depression (31). This research highlighted the positive effect of achieving personal exercise goals on a mother's sense of identity.

### **Strengths and limitations**

This study successfully recruited participants from ethnic minority backgrounds, which has previously been found to be challenging in exercise research (32). All interviewees had received an ICD-10 diagnosis via the gold standard CIS-R interview, defining this clinical population.

Though mothers with a range of depression severities were included in this study, the views of mothers with severe depression (9.5%) and mixed anxiety and depression (9.5%) may have been underrepresented. The participants of this study were recruited from an RCT of exercise for PND. Those participating in such as trial may be more receptive to exercise.

### **Implications for clinical practice**

There are many barriers to exercise for women with PND. In addition to the physical barriers of recovery from childbirth and the practical barriers of childcare, anxiety, depression, low motivation, a self-critical attitude and maladaptive coping strategies appear to form significant obstacles to the initiation and maintenance of exercise. Encouraging patients to view exercise as something that can begin gradually and be incorporated into daily life may foster more successful attempts at exercise.

A wide range of benefits were reported from exercise: improved energy, sleep, social interaction, distraction from low mood and worrying thoughts, weight loss, improved body image and self-confidence. Much of the evidence for activity in depression relates to aerobic exercise, however, as sense of connection to world, calmness conducive to logical thought and improved mood were reported from even walking at a slow pace. Discussion of such benefits may prove useful when encouraging mothers to begin exercise.

Motherhood involves a profound change in a women's sense of her identity. It is apparent that a woman's view of exercise and the benefits she may obtain from it are interwoven with the effects of childbirth on her sense of self. Mothers in the study seemed to feel an expectation, but also an innate desire to put the needs of their baby before any priorities of their own. However, it may be psychologically beneficial for a mother who is depressed and feels a loss of her own identity to take periods of time away from the mothering role to focus on her own health and well-being. Exercise can provide a sense of autonomy and freedom from the mothering role. The study has shown how mothers need encouragement not to attach guilt to focusing on exercise. This is an important lesson for practice. Emphasising the importance of a mother's psychological and physical health to the well-being of her child may be a valuable way to remove the barrier of guilt.

## **Appendix 1: Interview schedule**

### ***The trial***

- Can you remember how you heard about the study (RCT)?
- How did you feel about being asked to take part in a trial about postnatal depression?
- Why did you decide to take part?
- What did you understand the aims of the study to be? Is this still your understanding?
- What type of care were you hoping to get? Why?
- What are you hoping to achieve by taking part? Improved mental health or were there other things you would like to achieve, e.g. improved physical health?
- What exercise, if any, were you doing at the time?
- In what ways did you think exercise might help your depression?
- Did you think it might help in other ways? e.g. meeting people, improved exercise.
- Do you enjoy exercising?

### ***Diagnosis***

- How did you feel when you found out that you had PND and were eligible to take part in the study?
- Did you think you had PND?
- How were you feeling at the time?
- Why do you think you felt like this?

- Had you had depression or PND before?
- What care were you receiving at the time from you GP or health visitor?
- Did you have any other forms of support? (family, friends, clinics, groups)
- Did friends and family know how you were feeling?
- Once diagnosed did you tell people about your PND? If so, who and how did they respond?

#### ***Views on exercise as a treatment for PND***

- What do you think about exercise being used as a treatment for PND – do you think it might work? Why/why not?
- Do you see it as having a particular appeal to certain groups of individuals? e.g. active, first time mothers?
- Do you think only certain activities would help? If so, which activities?
- Do you think an effect will depend on the intensity or length of the activity? If so, why?
- What do you see as the pros and cons of exercise as a treatment for PND?
- Have you ever used exercise to improve your mental well-being? Why/why not?
- What about your health in general? Why/why not?
- Do you think exercise should be used alone or alongside other treatments, e.g. antidepressants?
- Do you think PND can impact on someone's ability to engage with exercise? Why/why not?

#### ***Experiences of the trial***

- How did you feel when you were allocated to the exercise arm?
- Was this the arm you wanted? Why/why not?
- What were your expectations of the Physical activity facilitator?
- What were your expectations about what information and support would be given?
- What treatment have you received so far, i.e. number of visits and telephone calls?
- Tell me about the visits? What did you do, what information was given, what do you think the PAF was trying to do, what goals were set etc?
- What was helpful and unhelpful about these visits?
- Tell me about the telephone calls? What information or support was given, what was discussed?
- What was helpful and unhelpful about these calls?
- And what about the information on local activities? What information have you received? Useful/not useful?
- And what did you think of the PAF? Do you feel she has the knowledge and skills to support and motivate you to exercise?
- What could be done better?
- What else should be offered?

#### ***Exercise undertaken and barriers and support***

- Since joining the study (RCT), can you tell me what exercise you have engaged in? Why these activities, how regularly do you do them?
- How do you feel at the time of exercise?
- How do you feel afterwards?
- How do you think exercise has affected your mental well-being?
- If done a range of activities

- Which activities did you enjoy the most?
- Which activities did you feel had the most impact on your mental health? Why?
- Where there any you did not enjoy? Why?
- Where they any you felt had a negative impact on your well-being? Why?
- What situations make it difficult for you to exercise?
- Are there issues that affect you engaging in physical activity? E.g. cost, facilities, time, feeling safe, feeling low?
- What helps/motivates you to engage in exercise? E.g. feeling less depressed, friend's encouragement?
- Have you told family/friends that you are taking part in the study (RCT)? If so, what was their reaction? Have they encouraged/discouraged you in any way?

***Other treatment received***

- During the trial, what other treatment have you received?
- What contact have you had with your GP and your health visitor?

***Final questions***

- How are you feeling now? What do you attribute this to?
- What exercise do you hope to do/maintain for the rest of the trial?
- What factors do you think will help you maintain the changes you have made?
- What will prevent you?
- Are you glad you are taking part in the study?
- Have the questionnaires been ok to complete?
- Are there any ways you think the trial could be improved?
- Is there anything else you would like to say about PND, your experiences of a particular treatment, views on treatments available and/or the trial?

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**Ethical approval**

Favourable ethical opinion was granted for this research by the Birmingham, East, North and Solihull Research Ethics Committee (reference 09/H1206/94).

**Competing interests**

None

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